

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A ceramic filter comprising:

a porous body having two end surfaces and an outer peripheral surface and having a plurality of ~~main-first~~ flow passages ~~for having a first cross-sectional shape~~ and a plurality of second flow passages having a second cross-sectional shape that is different from that of the first flow passages, wherein a fluid to be purified ~~which~~ ~~penetrate~~ penetrates from one end surface of the porous body to the other end surface ~~and of the porous body through the first and second flow passages, which are~~ partitioned from one another via partition walls; and

filtration membranes provided on inner wall surfaces of the ~~main-first~~ and second flow passages;

wherein the fluid to be purified flows into the filter from opening portions of the first and second flow passages in one end surface of the ~~main-flow-passage-porous body~~ and permeates the filtration membranes and an ~~inside-inner portion~~ of the porous body to be thereby purified, and is thereafter removed as a purified fluid from the outer peripheral surface of the porous body; or

wherein the fluid to be purified flows into the filter from the outer peripheral surface of the porous body and permeates the inside of the porous body and the filtration membranes to be thereby purified, and is thereafter removed as a purified fluid from at least opening portions ~~in one end surface of the main-first and second flow passage~~ passages at an end surface of the porous body;

wherein the cross-sectional shapes of the plurality of ~~main-first~~ and second flow passages, in a direction perpendicular to a flow direction of the fluid to be purified or the purified fluid, are aligned in rows with a predetermined pattern;

wherein at least one specific partition wall part, among the partition walls, is positioned between ~~the rows of predetermined main-the first~~ flow passages ~~to define at~~

~~least one first main flow passage disposed in the vicinity of each other, and wherein~~
the cross-sectional shape of the at least one specific partition wall part, in the direction perpendicular to the flow direction of the fluid to be purified or the purified fluid, is so formed as to be encompassed by a shape defined by two parallel lines spaced apart at a specified distance from each other;

wherein the cross-sectional shapes of the ~~at least one first main flow~~
~~passage~~passages, in the direction perpendicular to the flow direction of the fluid to be purified or the purified fluid, are ~~formed into~~ irregular polygonal shapes having seven or more sides arranged so that a predetermined reference side of one of the first flow
passages faces a predetermined reference side of another of the first main flow
passage via passages on opposite sides of the at least one specific partition wall part so that the facing predetermined reference sides constitute the two parallel lines; and

wherein sides crossing opposite ends of the reference side are second and third sides, a side crossing an end of the second side opposite to the reference side is a fourth side, and a side crossing an end of the third side opposite to the reference side is a fifth side, θ_1 , θ_2 , θ_3 , and θ_4 (wherein the θ_1 , θ_2 , θ_3 , and θ_4 indicate an angle (θ_1) formed by the reference side and the second side, an angle (θ_2) formed by the reference side and the third side, an angle (θ_3) formed by the second and fourth sides, and an angle (θ_4) formed by the third and fifth sides, respectively) are within a range of ~~135-110~~ to 160° , and a length (A) of the reference side and a maximum distance (B) between the fourth and fifth sides satisfy a requirement of $0.3B \leq A \leq 0.7B$.

2. (Previously Presented) The ceramic filter according to claim 1 comprising two or more of said specific partition wall parts.

3. (Previously Presented) The ceramic filter according to claim 1, wherein the cross-sectional shape of the porous body, in the direction perpendicular to the flow direction of the fluid to be purified or the purified fluid, has a maximum diameter of 70 mm ϕ or more.

4. (Currently Amended) The ceramic filter according to claim 1, wherein the at least one specific partition wall part is provided with ~~rows of predetermined main second specific main flow passages whose a plurality of third flow passages arranged in a row and having~~ opposite end-surface openings that are plugged, and slit-like auxiliary flow passages are formed in portions including the outer peripheral surface of the porous body so that the ~~second specific main~~ third flow passages communicate with an external space;

wherein the fluid to be purified flows into the filter from the opening portions ~~in the one end surface of the main first and second flow passage passages at an end surface of the porous body~~ and permeates the filtration membranes and the inside of the porous body to be thereby purified, and is removed as the purified fluid from the outer peripheral surface of the porous body and outlets of the slit-like auxiliary flow passages, or

the fluid to be purified flows into the filter from the outer peripheral surface of the porous body and the outlets of the auxiliary flow passages and permeates the inside of the porous body and the filtration membranes to be thereby purified, and is thereafter removed as the purified fluid from ~~at least the opening portions in the one end surface of the main~~ of the first and second flow passage passages proximate an end of the porous body.

5. (Currently Amended) The ceramic filter according to claim 4, wherein an arrangement pattern of cross-sectional shapes of the rows of ~~second main~~ third flow passages and rows of ~~main first and/or second flow passages other than the second main flow passages,~~ in the direction perpendicular to the flow direction of the fluid to be purified or the purified fluid, is a repeated pattern including two to eight rows of ~~main first and/or second flow passages other than the second specific main flow passages,~~ which are arranged subsequently to one row of ~~second specific main~~ third flow passages.